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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,462	09/01/2000	Thomas M. Jessell	62166/JPW/EMW	6093
7590	03/13/2006			
John P White Cooper & Dunham LLP 1185 Avenue of the Americas New York, NY 10036			EXAMINER FALK, ANNE MARIE	
			ART UNIT 1632	PAPER NUMBER

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,462

Applicant(s)

JESSELL ET AL.

Examiner

Anne-Marie Falk, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed October 17, 2005 (hereinafter referred to as "the response") has been entered. Claim 1 has been amended and Claim 4 has been cancelled.

Accordingly, Claims 1-3 are pending in the instant application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-3 of U.S. Patent No. 6,955,802. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed method of converting a

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neural stem cell into a ventral or V2 neuron is obvious over the claimed neural stem cell of U.S. Patent No. 6,955,802.

Claims 1-3 of the instant application are directed to a method of converting a neural stem cell into a V2 interneuron, which comprises introducing into the neural stem cell, *ex vivo*, a nucleic acid which encodes homeodomain transcription factor Nkx6.1 protein, wherein the encoded protein is expressed in the stem cell so as to thereby convert the neural stem cell into the V2 neuron.

Claim 1 of parent case U.S. Patent No. 6,955,802 is directed to a neural stem cell which does not express homeodomain transcription factor Irx3 protein or homeodomain transcription factor Nkx2.2 protein comprising a retroviral expression system, wherein the retroviral expression system expresses homeodomain transcription factor Nkx6.1 protein.

The instantly claimed method of converting a neural stem cell into a V2 neuron is obvious over the neural stem cell because the claimed method is essentially a method of making the neural stem cell of Claim 1 of the parent case that issued as U.S. Patent No. 6,955,802. Once the genetically modified neural stem cell is produced, expression of the Nkx6.1 protein, in the absence of expression of Irx3 and Nkx2.2 converts the neural stem cell into a motor neuron. The claimed method, although reciting a V2 neuron, would also produce a motor neuron, within the scope of the claim.

Although the parent case that issued as U.S. Patent No. 6,955,802 contains a restriction requirement, claims directed to the neural stem cell and a method of generating a motor neuron by introducing an Nkx6.1 gene into a neural stem cell were not restricted apart. Both the neural stem cell and the method were included in the invention of Group I.

At page 5 of the response, Applicants assert that the pending claims are no longer directed to a motor neuron and no longer recite a ventral neuron, but instead now recite a V2 neuron. Applicants further assert that the neural stem cell claimed in the patent necessarily produces a motor neuron because it expresses Nkx6.1, but not transcription factors Irx3 or Nkx2.2. In response, it is noted that the instantly

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claimed method, as broadly claimed, would give rise to motor neurons as well as V2 neurons. The instantly claimed method reads on expressing Nkx6.1 in the absence of expression of Irx3 and Nkx2.2, which would specify a motor neuron. Absent a recitation that the neural stem cell also expresses Irx3, the claim continues to read on the use of a neural stem cell that does not express Irx3, which would then specify a motor neuron.

Thus, the rejection is maintained.

Conclusion

No claims are allowable.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic

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Business Center will notify applicants of the resolution of the problem within 5-7 business days.

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as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne-Marie Falk whose telephone number is (571) 272-0728. The examiner can normally be reached Monday through Friday from 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571) 272-0735. The central official fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Anne-Marie Falk, Ph.D.


ANNE-MARIE FALK, PH.D
PRIMARY EXAMINER